

LISTING ACCORDING TO CLAIMS:

The following listing according to claims replaces all previous versions and listings in the present application.

Please cancel claims 1-24 without prejudice or disclaimer.

1. – 24 (Canceled)

25. (New) A resource controller capable of being located in a satellite having a plurality of communication channels, an antenna, an uplink section, a downlink section, the resource controller for reducing a communication latency between a plurality of user terminals and a content provider, the resource controller comprising:

a satellite interface coupled to the uplink section, the downlink section and the antenna;
and

a processor coupled to the satellite interface, the processor configured to:

intercept a request from one of the plurality of user terminals on the uplink section for a connection with the content provider; and

one of acknowledge the intercepted request and deny the intercepted request based on the resources available for transmission to the content provider.

26. (New) The resource controller according to claim 25, wherein the processor is further configured to notify the one of the plurality of user terminals on the downlink section of resources available for transmission to the content provider in response to the intercepted request.

27. (New) The resource controller according to claim 25, wherein the processor is further configured to assign one or more of the plurality of communication channels to the one of the plurality of user terminals in response to the intercepted request based on a predetermined criteria if the intercepted request is acknowledged.

28. (New) The resource controller according to claim 27, wherein the predetermined criteria includes one of an available bandwidth and a number of connection requests.

29. (New) The resource controller according to claim 25, wherein the processor includes an acknowledgement processor.

30. (New) The resource controller according to claim 25, wherein the processor is further configured to communicate a status of one of the satellite and the content provider.

31. (New) The resource controller according to claim 25, wherein the processor is further configured to:

control an allocated number of the plurality of communication channels; and
determine which of the plurality of user terminals can use which of the allocated number of the plurality of communications channels.

32. (New) The resource controller according to claim 25, wherein the processor is further configured to:

control an allocated number of slots associated with the plurality of communication channels; and

determine which of the plurality of user terminals can use which of the allocated number of the slots associated with the plurality of communications channels.

33. (New) A method for reducing a round trip time of a transmission between a user terminal and a content provider in a satellite system having a satellite with a plurality of communication channels, the method comprising:

intercepting, at the satellite, a request from the user terminal for a connection with the content provider forming an intercepted connection request; and

notifying the user terminal of resources available for the transmission to the content provider directly from the satellite in response to the intercepted connection request.

34. (New) The method according to claim 33, wherein the intercepted connection request includes a request for bandwidth.

35. (New) The method according to claim 33, wherein the notifying includes notifying the user terminal of the status of the content provider.

36. (New) The method according to claim 33, further comprising assigning the user terminal to one of the plurality of communication channels based on a predetermined criteria.

37. (New) The method according to claim 36, wherein the predetermined criteria includes one of an available bandwidth and a number of connection requests generated by one or more other user terminals attempting to connect with the content provider.

38. (New) The method according to claim 33, wherein the notifying includes one of a denial of the request from the user terminal and an acknowledgment of the request from the user terminal.

39. (New) The method according to claim 33, wherein:

if the notifying includes an acknowledgement, the user terminal, in response, proceeds with the transmission; and

if the notifying includes a denial, the user terminal, in response, immediately proceeds with one of a re-transmission of the request at a later time and an alternate routing of the transmission.

40. (New) A hybrid payload satellite for reducing a communication latency between a plurality of user terminals and a content provider, the hybrid payload satellite including an antenna having an uplink section and a downlink section, an uplink electronics unit, and connection resources, the hybrid payload satellite capable of handling a digital payload and an analog payload, the hybrid payload satellite comprising:

a forward payload section including a forward processing module and an forward amplifier, the forward payload section for handling the analog payload; and

a return payload section including a return processing module having an arbitration processor and a return amplifier, the return payload section for handling the digital payload,

wherein the arbitration processor is configured to:

intercept a request from one of the plurality of user terminals on the uplink section for access to a connection with the content provider; and

one of grant the intercepted request and deny the intercepted request based on the resources available for transmission to the content provider.

41. (New) The hybrid payload satellite according to claim 40, wherein the forward amplifier includes a forward traveling wave tube amplifier (TWTA) and the return amplifier includes a return TWTA.

42. (New) The hybrid payload satellite according to claim 40, wherein the arbitration processor is further configured to transmit a message to the plurality of user terminals granting or denying access to the connection resources.

43. (New) The hybrid payload satellite according to claim 40, wherein the arbitration processor is further configured to not acknowledge a collision between multiple requests from the plurality of user terminals.

44. (New) The hybrid payload satellite according to claim 40, wherein the arbitration processor includes a demand assigned multiple access (DAMA) processor and is further configured to distinguish a signal from noise in a DAMA channel associated with the connection resources using a pseudonoise (PN) sequence correlator.

45. (New) The hybrid payload satellite according to claim 40, wherein the arbitration processor includes a demand assigned multiple access (DAMA) processor and further includes a multichannel demodulator configured to recover and decode a DAMA request message.

46. (New) The hybrid payload satellite according to claim 45, wherein the multichannel demodulator configured to generate a reply to the DAMA request message and multiplex the reply into a downlink signal.

47. (New) The hybrid payload satellite according to claim 45, wherein the multichannel demodulator configured to generates a special downlink signal for one of the plurality of user terminals making the DAMA request message.

48. (New) The hybrid payload satellite according to claim 40, wherein the arbitration processor is configured to operate in accordance with one of a demand assigned multiple access (DAMA) protocol, an frequency division multiple access (FDMA) protocol, a time division multiple access (TDMA) protocol, a carrier detect multiple access (CDMA) protocol, carrier sense multiple access/collision detection (CSMA/CD) protocol, and a hybrid protocol.